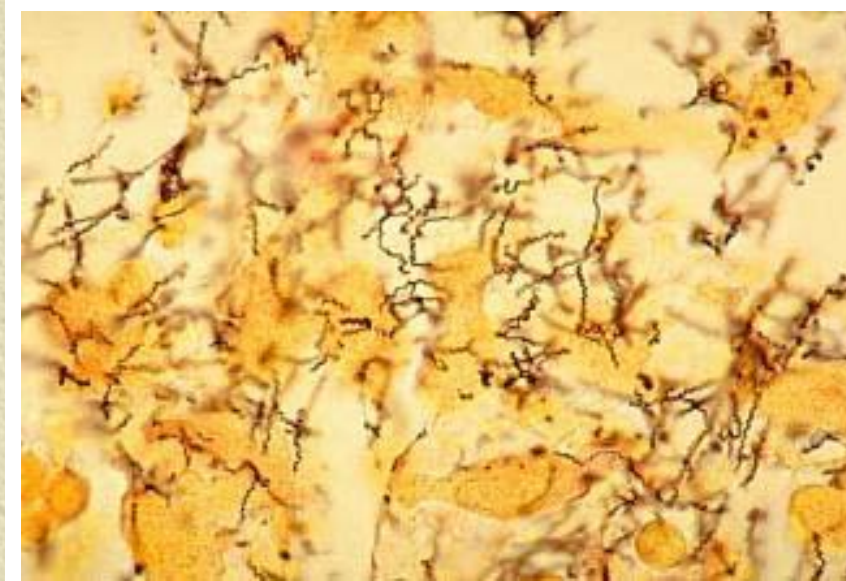


# Syphilis: The New Epidemic

---

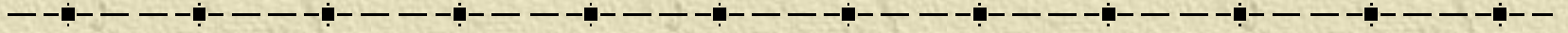


✦ Noon Conference

✦ Thursday, June 11, 2009

✦ Chris Farnitano, MD

# Forms





# Case Presentation#1 WR

---

- ✧ 50 y.o. male, new dx HIV pos
- ✧ HIV neg 4 years ago
- ✧ No IVDA, No MSM, no current partner
- ✧ T cells 202
- ✧ RPR reactive
- ✧ VDRL 1:16
- ✧ TPPA positive
- ✧ What next?

# Case Presentation#2 SS

---

- ✦ 27 y.o. male, dx HIV pos 1 year ago
- ✦ MSM, last sexual encounter 4-5 mo ago
- ✦ 2 week Hx of rash
- ✦ 2 week Hx white patches on buccal mucosa, palate
- ✦ Patchy alopecia of scalp
- ✦ Right eye photophobia and blurry vision



# Case Presentation#2 SS: Rash

© Current Medicine Group



# Case Presentation#2 SS: Oral lesions

---



# History

---



English: Morbus gallicus: The “French Disease”

French: the “English Disease”

Italians: the “Spanish Disease”

Russians: the “Polish Disease”

Arabs: The "Disease of the Christians"

First well recorded outbreak occurs in Naples in 1494: Did Columbus’s crew bring this back to the old world?

# History of Syphilis Treatment

---

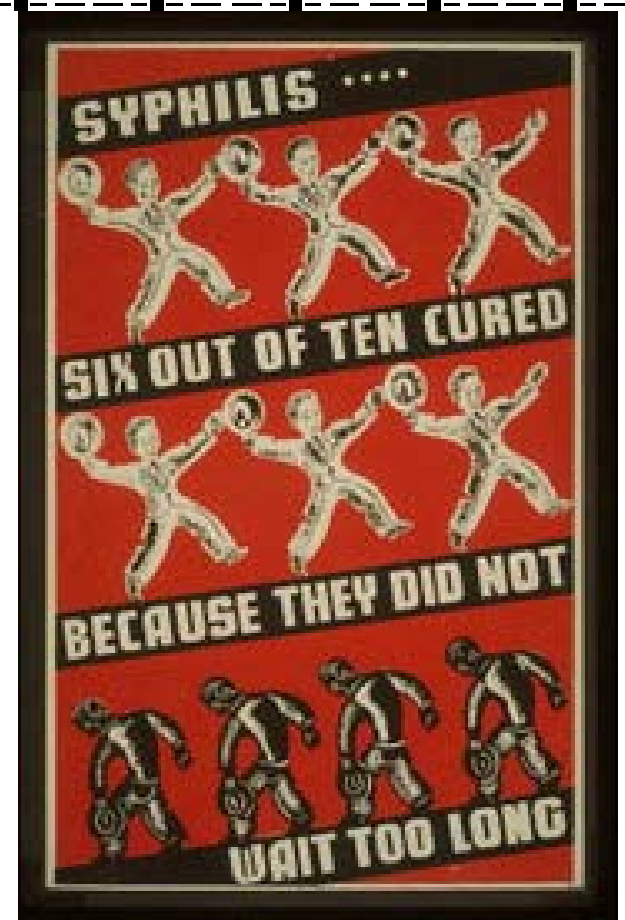


1800s: Mercury (A night in the arms of Venus leads to a lifetime on Mercury)

1910: Arsenic

Iatrogenic Malaria: (produced high fevers which cured the disease, then Malaria treated with Quinine)

1940s: Penicillin



Depression Era Poster



# Tuskegee

---

✦ In 1932, the U.S. Public Health Service recruited 623 African American men from Macon County, Alabama, for a study of "the effects of untreated syphilis in the Negro male." For the next 40 years—even after the development of penicillin, these men were denied medical care for this potentially fatal disease.

# Tuskegee

---

✱ The Tuskegee Syphilis Study was exposed in 1972. By the end of the experiment:

- ✱ 28 of the men had died directly of syphilis
- ✱ 100 were dead of related complications
- ✱ 40 of their wives had been infected
- ✱ 19 of their children had been born with congenital syphilis



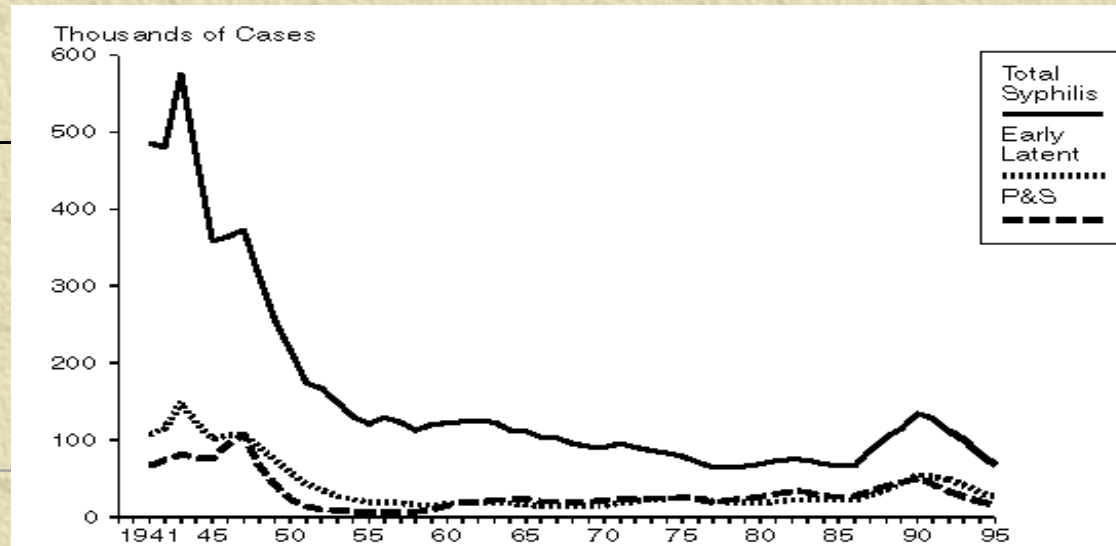
# Legacy of Tuskegee

---

- ✧ Distrust amongst African Americans in regards to medical research and health care in general, AIDS testing and treatment in particular:
  - ✧ 2005 Nationwide survey of African-Americans
    - Nearly half believe HIV is man-made
    - 26% believe HIV was made in a US government lab
    - 15% said AIDS is a form of genocide against blacks
    - 12% believe it was created and spread by the CIA
    - Over half believe a cure for AIDS is being withheld from the poor (After all, they did it with the cure for syphilis!)



# Last epidemic



- ✦ Peaked in 1990
- ✦ Highest rate in 40 years
- ✦ Centered on inner city African-Americans
  - ✦ Rate in blacks 34 times rate in whites
- ✦ Mostly Southern states
- ✦ Key dynamic: trading sex for crack

# Efforts to eliminate syphilis

---

## ✦ Ideal disease for elimination

- ✦ Lacks an animal reservoir
- ✦ Long incubation period allows treatment before transmission
- ✦ Remains very susceptible to PCN
- ✦ Other industrialized nations have eliminated syphilis

✦ All time low hit in 2000 (5979 U.S. cases of primary & secondary syphilis)



# *The National Plan to Eliminate Syphilis from the United States 1999*

---

✦ Goal: reduce cases to under 1000  
by 2005

✦ Target of efforts: Southern and  
inner city blacks



# The new epidemic: USA

---

✱ 6862 cases in 2002

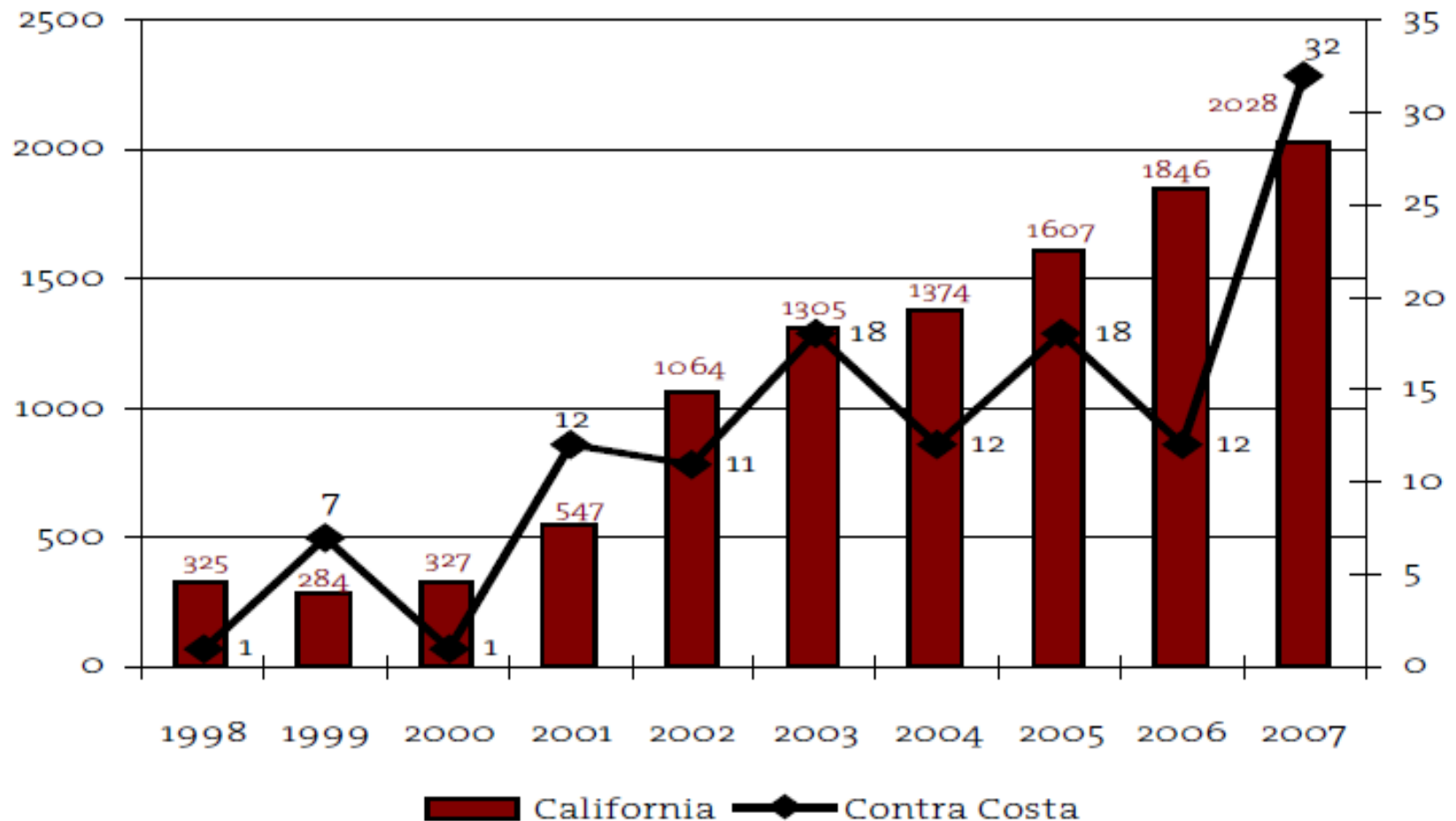
✱ 7177 cases in 2003

✱ 7980 cases in 2004

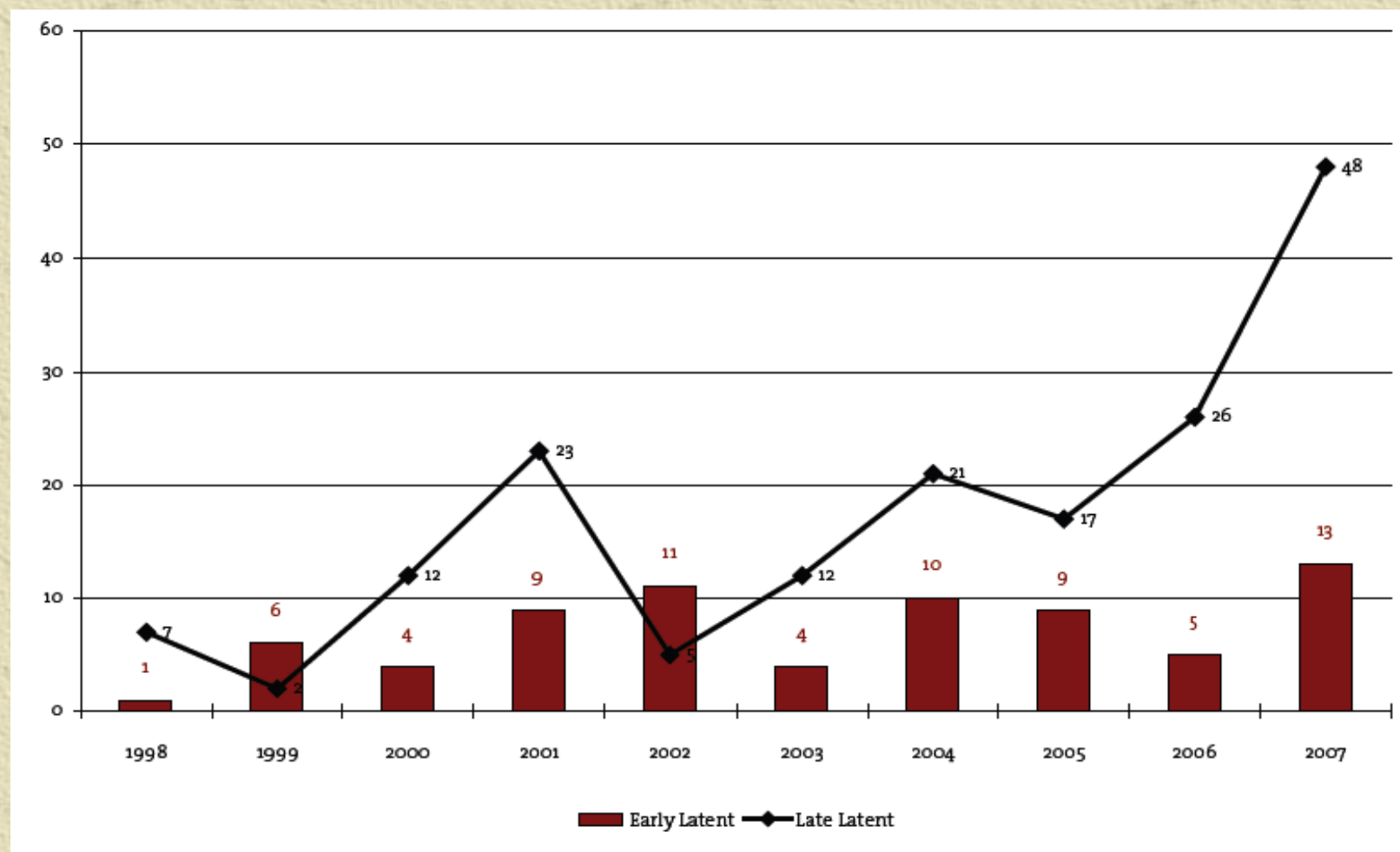
✱ 8724 cases in 2005

✱ 11,466 cases in 2007

# Primary/Secondary Syphilis in California and Contra Costa County 1998-2007



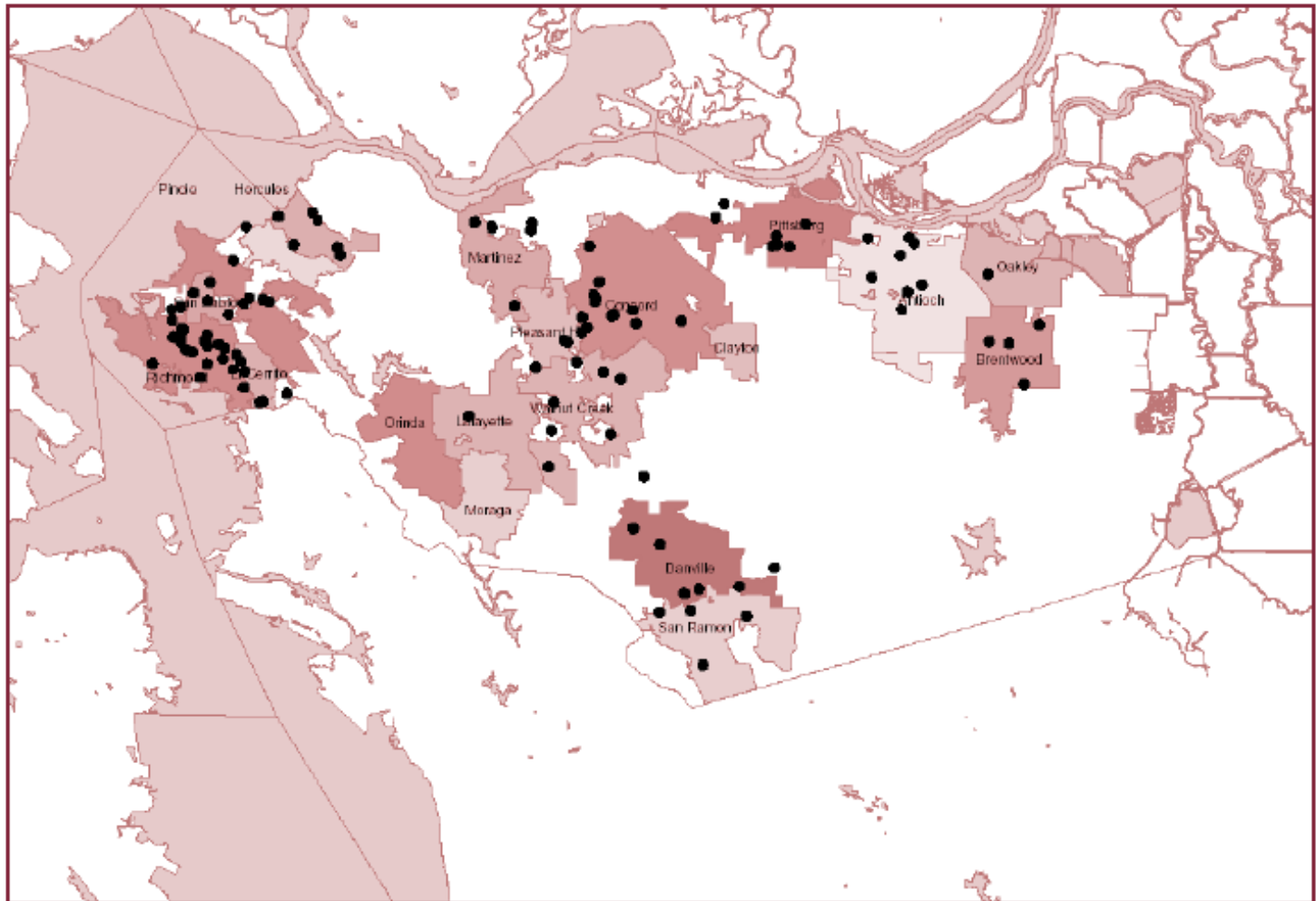
# Early Latent and Late Latent Syphilis in Contra Costa County 1998–2007





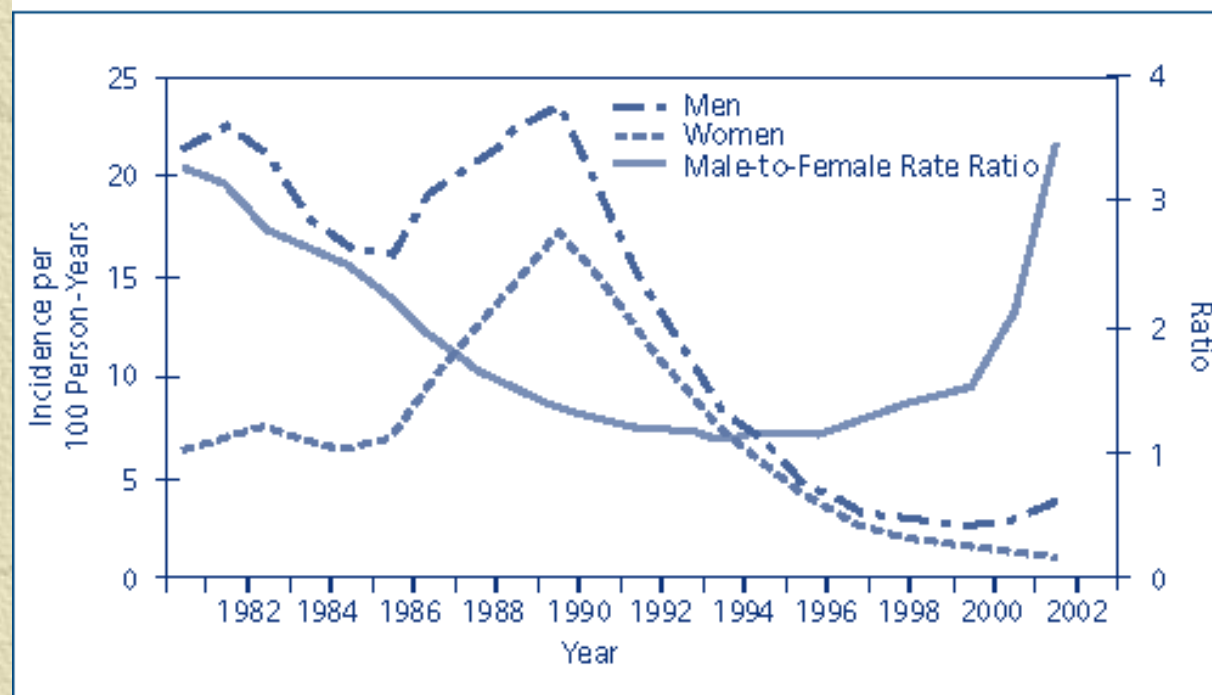
# Primary and Secondary Syphilis Contra Costa County 1998–2007, by City

---



# A heterosexual epidemic becomes a MSM (men who have sex with men) epidemic

Figure. Reported Rates\* of Primary and Secondary Syphilis, by Year and Sex, and Male-to-Female Rate Ratios – United States, 1981-2002 [MMWR 52(46): 1117-20, 2003]



\*Per 100,000 population.

- ✱ 64% of US cases in 2007 are in MSM
- ◆ (79% MSM in California)

# Primary/Secondary Syphilis in Contra Costa, 2007

---

✦ 32 cases:

✦ 21 (66%) of cases in MSM:

- 8 Latino
- 6 African American
- 4 White
- 3 Asian



# A heterosexual epidemic becomes a MSM (men who have sex with men) epidemic

---

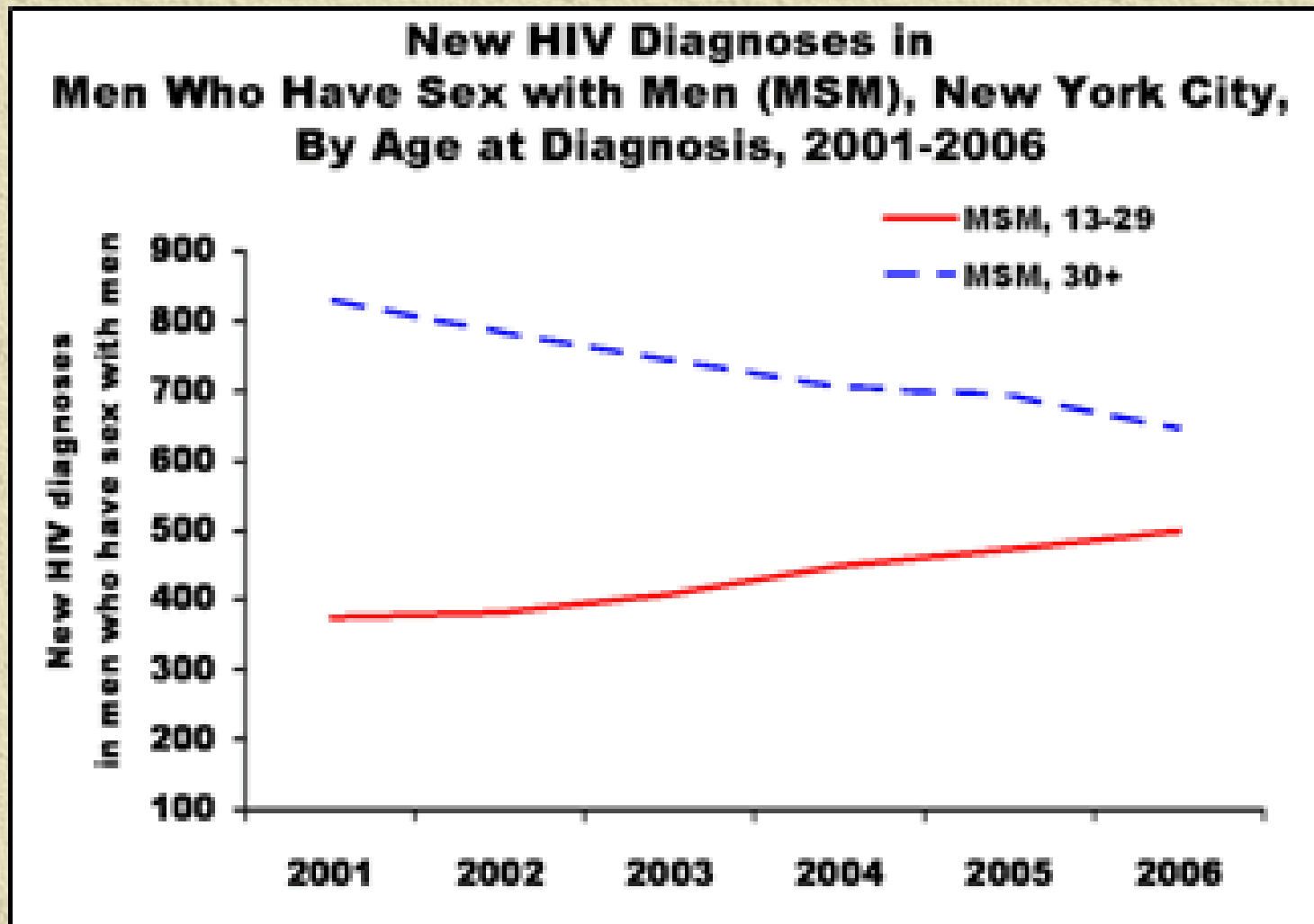
- ✦ However, rates among women increased for first time in more than a decade in 2005
- ✦ Rates among African-Americans increased in 2004 and again in 2005, after a decade of declines

# Syphilis and HIV

---

- ✦ In many cities, the majority of syphilis cases are in MSM who are known HIV+
- ✦ In California, 60% of MSM with syphilis were known HIV+, with 59% reporting anonymous sex partners

# Syphilis, HIV rising in young MSM





# The new epidemic-associated trends

---

- ✦ Increased rates of Methamphetamine and Viagra use
  - ◆ Increases likelihood of high risk behaviors
- ✦ Use of on-line matchmaking services to find sexual partners
- ✦ Increased rate of oral sex
  - ◆ Perceived less likely to result in HIV transmission

# Crystal Meth and Unsafe Sex



**SYPHILIS SORES MONTHLY MEETING**

My fellow sores,

This month we're meeting at Mario's place because I want you to see one of our best opportunities to spread. This guy that just came over is one of many guys that Mario meets online.

Crystal meth and the internet are the two best things that ever happened for syphilis. These guys get high and keep hooking up all night long - some guys go for days.

When they get strung out on meth they don't think very much about STDs. They don't look for sores and they usually don't use condoms, which is great for us.

OK, let's get out there and find those meth users!

**GET TESTED FOR SYPHILIS**  
[www.stopthesores.org](http://www.stopthesores.org) 800.758.0880

Syphilis is spread by "skin-to-skin" contact, through anal, vaginal AND oral sex. Many people don't notice the symptoms or know they have syphilis. The initial sore is painless. The good news is syphilis is easily cured.

Funded by Los Angeles County Department of Health Services | Sponsored by AIDS Healthcare Foundation, AIDS Project Los Angeles, Asian Pacific AIDS Intervention Team, Bluenstar, Los Angeles Gay and Lesbian Center and Minority AIDS Project | Design by Better World Advertising ([www.socialmarketing.com](http://www.socialmarketing.com))

**STOP THE SORES**



# Black MSM:

## “On the Down-Low”

---

- ✦ syphilis rates increased 22.6% in black men, but only 2.4% in women, 2003-2004
- ✦ Black MSM often do not identify themselves as gay, and often maintain public heterosexual relationships

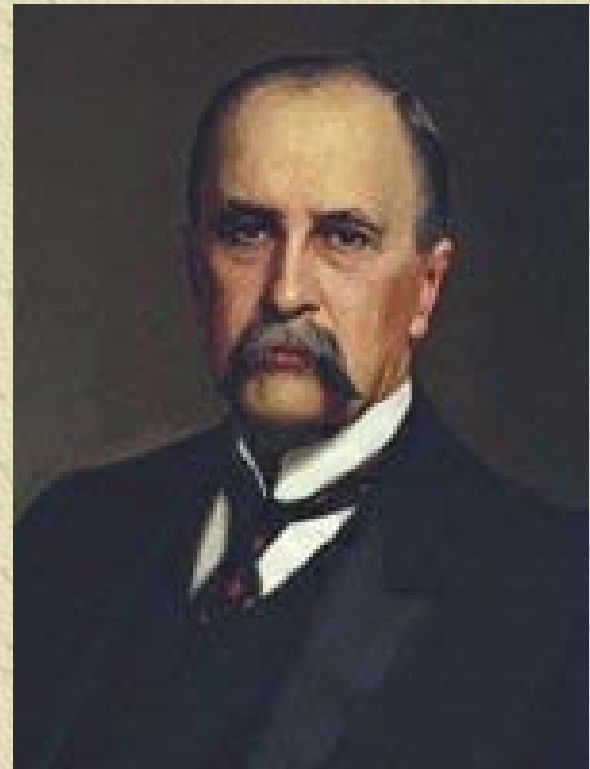


# Clinical Manifestations

---

✠ “He who knows syphilis, knows medicine”

-Sir William Osler



# Clinical Manifestations

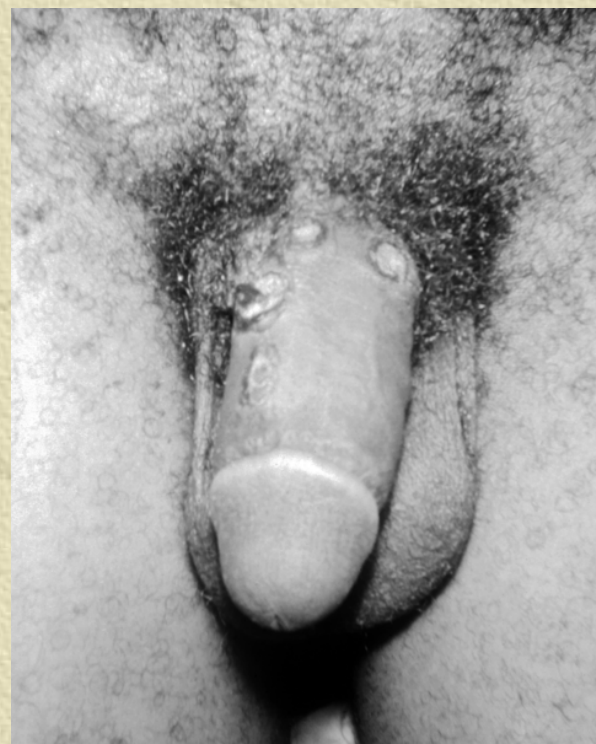
---

## ✦ Primary syphilis

- ✦ Symptom onset 2 weeks –3 months after exposure
  - Painless sores (chancres)
    - ♦ Can be painful if secondary bacterial infection
  - Located at site of inoculation
    - ♦ Anogenital
    - ♦ Oral



# Chancres





# Clinical Manifestations

---

## ✦ Primary syphilis

- ◆ Regional non-tender lymphadenopathy

# Clinical Manifestations

---

## ✦ Secondary syphilis

### ✦ Rash

- Usual onset after primary lesions resolved
- Can be localized or generalized
- Often include mucosa, palms, soles
- Can be macular, papular, pustular, annular

### ✦ Constitutional symptoms

- Sore throat, low-grade fever, malaise, myalgias

### ✦ Generalized lymphadenopathy



# Secondary syphilis rash



(c) University Erlangen,  
Department of Dermatology  
Phone: (+49) 9131-85-2727



# Secondary syphilis rash

---



# Secondary Syphilis: Palmar pustules

---





# Secondary Syphilis: Palmar pustules



© Current Medicine Group



# Secondary rash-eroded papules

---





# Dry, Scaly, Palmar/Plantar Rashes



# Clinical Manifestations

---

## ✦ Secondary syphilis

### ✦ Less common findings:

- Mucous patches in oropharynx
- Condyloma lata: moist, wart-like papules in skin folds
- Alopecia



# Mucous patches

---



# Condyloma Lata



Seattle STD/HIV Prevention Training Center

Source: Connie Celum, Walter Stamm



# Condyloma Lata



# Condyloma Lata





# Clinical Manifestations

---

✦ Highly contagious lesions (teeming with bugs)

- ✦ Chancres
- ✦ Mucous patches
- ✦ Condyloma lata

✦ Non-infectious lesions

- ✦ Dry rashes

# Clinical Manifestations

---

## ✦ Latent Syphilis

### ✦ Serologic evidence without Signs or Sx

- Early Latent: less than 12 months duration since symptoms or a negative serologic test
- Late Latent: more than 12 months
- Syphilis of unknown duration



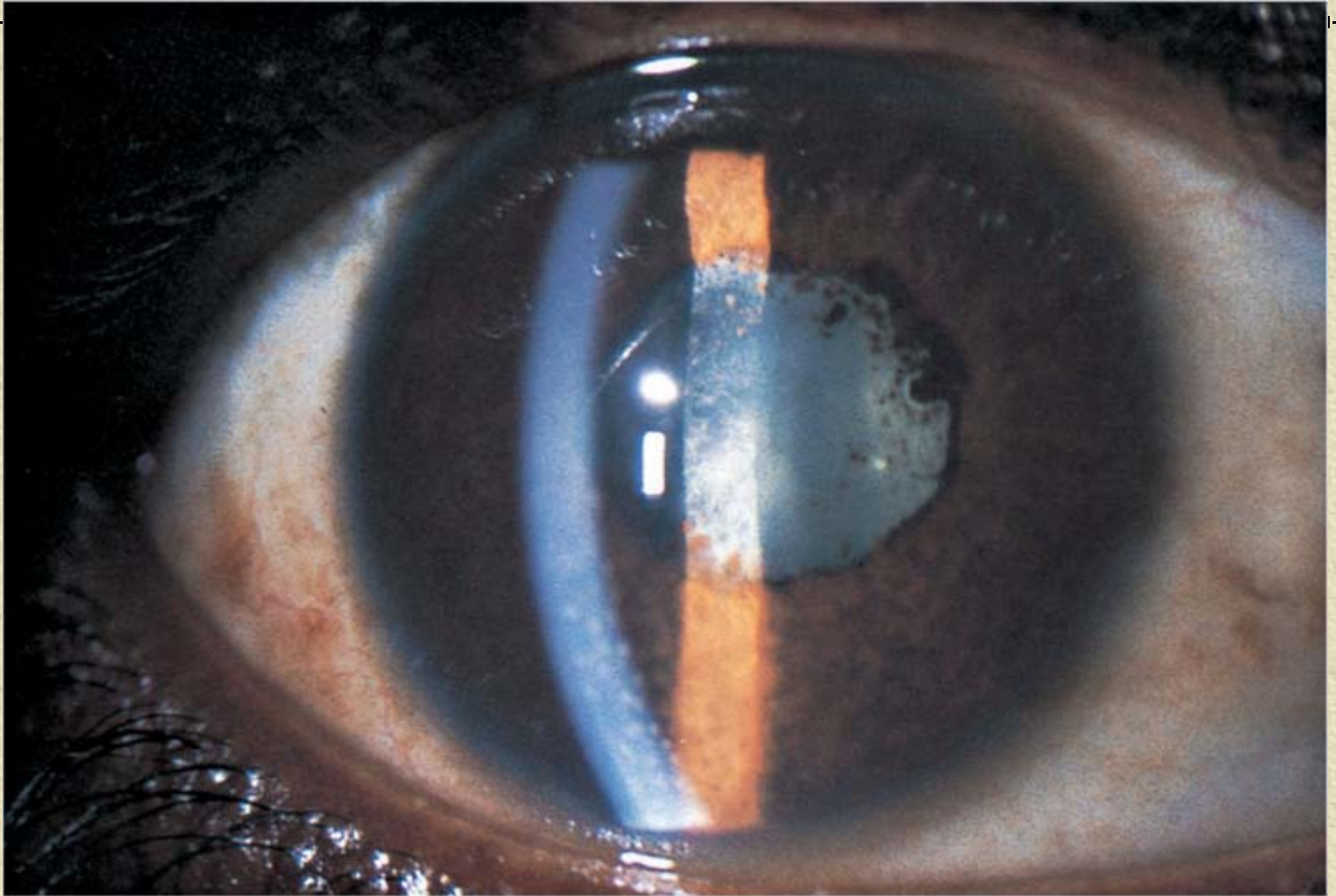
# Clinical Manifestations

---

## ✧ Neurosyphilis

- ✧ Occurs in 1-2% of all syphilis cases
- ✧ 49 cases of symptomatic early neurosyphilis in HIV+ MSM (men who have sex with men), 2002-2004
- ✧ Can invade the CNS at any stage of disease
- ✧ Early Disease: involves meninges and vessels
  - 75% c/o visual disturbances or new headaches
  - Uveitis in up to 10% with CSF evidence of syphilis
  - 12% Meningitis
  - Cranial nerve palsies
  - Stroke

# Uveitis





# Clinical Manifestations

---

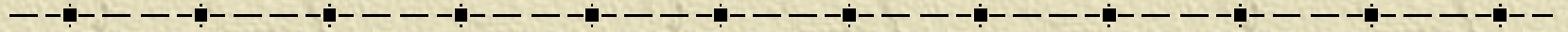
## ✦ Neurosyphilis

### ✦ Late Disease: involves brain parenchyma

- Paresis
- Tabes dorsalis
  - ♦ Involvement of posterior column of spinal cord
  - ♦ Sensory ataxia
  - ♦ Bowel and bladder incontinence

# Tabes Dorsalis

## Destruction of Posterior Horns





# Clinical Manifestations

---

## ✦ Tertiary syphilis

- ✦ Aortitis with aneurysm
- ✦ Late neurologic dz
- ✦ Gumma formation – indolent granulomas
  - Most frequently in skin, bone, liver

# How Syphilis affects HIV

---

- ✦ Increases the rate of HIV acquisition 2-4 fold
- ✦ Increases the rate of HIV transmission 2-9 fold



# How HIV affects syphilis

---

- ✦ More likely to have multiple and/or persistent chancres rather than a single lesion
- ✦ Possible increased risk for neurosyphilis  
Especially if T Cells < 350

# Diagnosis

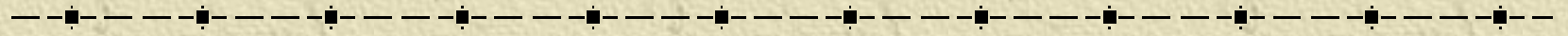
---

## ✧ Rapid plasma reagin (RPR)

- ✧ False positives, esp. in HIV, Hep C, rheumatologic diseases
  - Usually titers <1:16
- ✧ 75% sensitive in primary dz
- ✧ Almost 100% sensitive in secondary dz
  - Exception: prozone phenomenon
    - ✧ Request dilution if neg test and still highly suspicious



# Diagnosis



✦ Confirmatory syphilis specific tests

◆ TTPA or MH-ATP

# Diagnosis

---

## ✦ CSF examination recommended:

- ✦ Abnormal neuro or optho signs/sx, any stage
- ✦ Tertiary Syphilis
- ✦ Treatment Failure
- ✦ Consider in HIV positive with normal neuro exam and late latent or syphilis of unknown duration
  - Especially if high titer ( $>1:32$ ) or low T Cells ( $<350$ )



# Treatment

---

✦ Primary, secondary and early latent:

- ✦ Benzathine penicillin G 2.4 MU IM x 1
  - Bicillin-L-A, not Bicillin C-R

✦ Late latent or syphilis of unknown duration:

- ✦ Benzathine penicillin G 2.4 MU IM qweek x 3 doses

✦ Draw RPR on day of treatment, even if titer was drawn 2 weeks previously

- ✦ This will be baseline to monitor response to Tx

# Treatment: Alternatives to PCN

---

- ✧ Doxycycline, tetracycline po x 14 days
  - ✧ Use only if PCN allergic as adherence a concern
- ✧ Ceftriaxone 1 g IV/IM qday x 8-10d
- ✧ Azithromycin no longer recommended
  - ✧ In San Francisco, rate of azithromycin resistant T. pallidum incr. from 4% in 2000-2002 to 37% in 2003
- ✧ None of above studied in HIV+



# Treatment: Jarish-Herxheimer reaction

---

- ✦ Occurs in 12% of HIV-, 22% HIV+
- ✦ Due to release of antigen with treatment
- ✦ Sx: fever, malaise, arthralgias, worsening of rash and lesions
- ✦ Tx: symptomatic

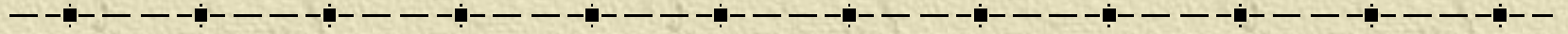
# Treatment: Neurosyphilis

---

- ✦ IV penicillin G 18-24 units/day x 10-14 days
- ✦ Alternative: daily IM procaine Pen G + oral probenecid
- ✦ Follow either of above with Benzathine penicillin G 2.4 MU IM qweek x 3 doses
- ✦ Alt in pcn allergic: ceftriaxone 2gm IM x 14d vs. pcn desensitization



# Treatment



✦ Public Health Dept. Referral

- ✦ Contact tracing

# Case Presentation #1: WR

---

- ✧ 50 y.o. male, new dx HIV pos
- ✧ HIV neg 4 years ago
- ✧ No IVDA, No MSM, no current partner
- ✧ T cells 202
- ✧ RPR reactive
- ✧ VDRL 1:16
- ✧ TPPA positive
- ✧ What next?



# Case Presentation #1: WR

---

- ✦ Patient treated for latent syphilis of unknown duration with benzathine penicillin G (Bicillin L-A) 2.4 mu weekly for 3 doses
- ✦ Anything else?

# Case Presentation #1: WR

---

- ✦ LP performed to rule out asymptomatic neurosyphilis as pt. HIV pos with low T cells:
- ✦ CSF VDRL reactive
- ✦ Treatment?



# Case Presentation #1: WR

---

- ✦ Pt. Unwilling to be admitted for 10-14 days of IV penicillin
- ✦ Agrees to come daily to clinic for IM procaine penicillin plus oral probenecid
- ✦ After a few missteps (benzathine penicillin given instead of procaine penicillin for 2 doses), patient completes 9 days of daily IM procaine penicillin, this is supplemented with 3 doses of weekly benzathine penicillin (Bicillin LA)

# Case Presentation#2 SS

---

- ✦ 27 y.o. male, dx HIV pos 1 year ago
- ✦ MSM, last sexual encounter 4-5 mo ago
- ✦ 2 week Hx of rash
- ✦ 2 week Hx white patches on buccal mucosa, palate
- ✦ Patchy alopecia of scalp
- ✦ Right eye photophobia and blurry vision



# Case Presentation#2 SS

---

- ✦ Serum VDRL 1:256
- ✦ Ophthalmologist exam revealed uveitis and optic neuritis = **Neurosyphilis**
- ✦ CSF examination: VDRL 1:8
- ✦ Admitted for 2 weeks IV Pen G

# Novel Approach to Contract Tracing



This is from a friend at **inSPOT** the [STD] Internet Notification Service for Partners Or Tricks.

“This is from a friend at inSPOT, the [STD] Internet Notification Service for Partners or Tricks”



# Follow-up

---

## ✦ Early stage infection:

- ✦ Repeat RPR at 3,6,9,12,24 months
- ✦ Success = 4 fold decrease in titer in 12 months

## ✦ Late stage infection:

- ✦ Repeat RPR at 6, 12,18 and 24 months
- ✦ Success = 4 fold decrease in titer in 24 months

## ✦ Persistent low level (<1:16) titer found more often in HIV+ (serofast state)

# Treatment Failure/relapse

---

- ✦ Defined as lack of 4 fold titer decline or a 4 fold rise in titer after initial decline
- ✦ More common in HIV+
- ✦ Perform LP
- ✦ Retreat with Benzathine penicillin G 2.4 MU IM qweek x 3 doses



# Screening all pregnant women

---

- ✦ 430 cases congenital syphilis in US in 2007
- ✦ Several recent cases at CCRMC of pregnant moms RPR negative at prenatal care entry, RPR positive at delivery
  - ✦ Infants required hospitalization for IV PCN
- ✦ RPR, HIV at entry to prenatal care
- ✦ **Repeat RPR, HIV at 36 weeks**

# Screening HIV+'s

---

- ✦ Ask about sexual practices frequently
- ✦ RPR yearly in all HIV+
- ✦ Q3-6 months in high risk individuals

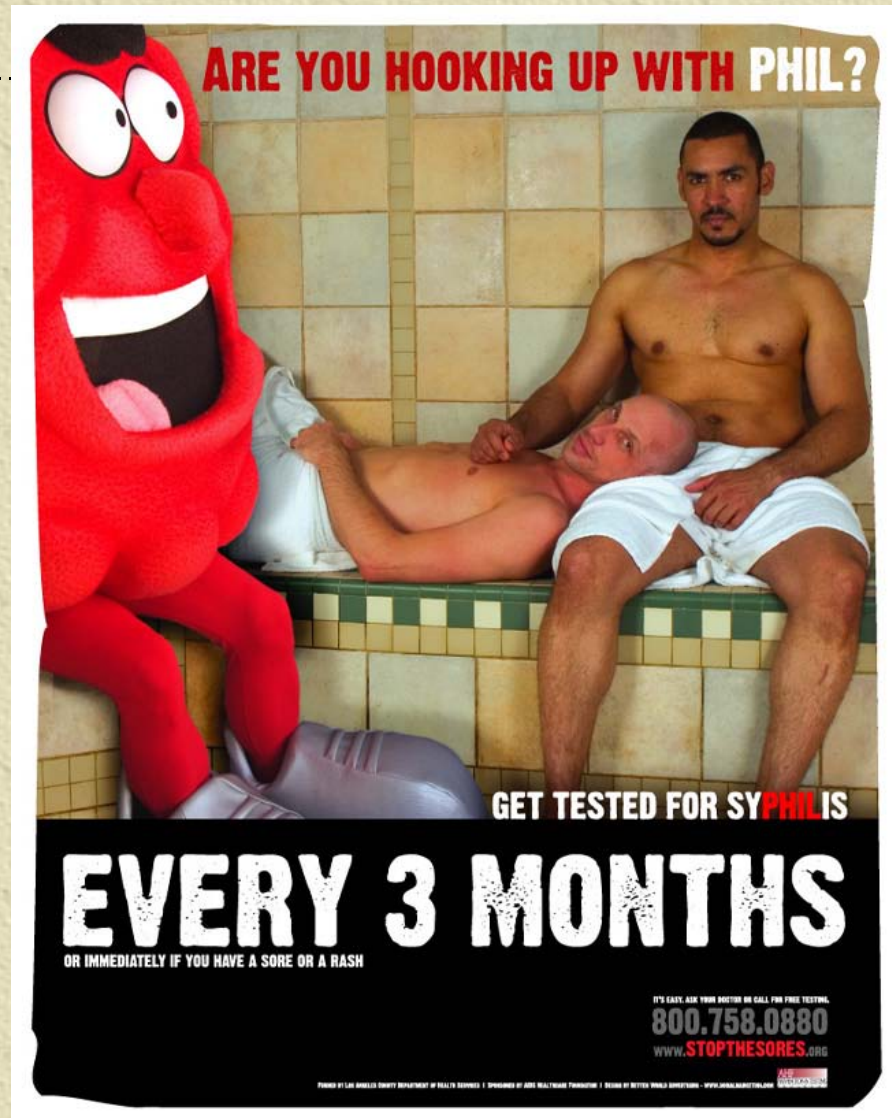


# Phil the Syphilis Sore

---



# Are You Hooking Up with Phil?







# Please complete your forms

